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S-E-C-R-E-T

CIA/RR GS 64-37
November 1964

ENVIRONMENTAL CONDITIONS
IN THREE SELECTED AREAS OF PERU

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GROUP I Excluded from automatic downgrading and declassification

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1-2 and 4-5 [REDACTED] (with 2 copies of ms maps)

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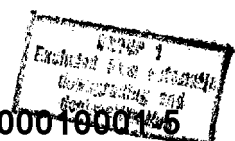
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Area III. Cuzco - Lake Titicaca

The area selected in the Cuzco - Lake Titicaca region stretches from the slopes above the Urubamba River north of Cuzco to Puno and the Bolivian border in the south, a distance of about 225 miles.

Terrain: The area between Cuzco and Lake Titicaca can be succinctly described as high and dry. Elevations drop down to 12,000 feet in the level sections of the altiplano, but heights of 13,000 to 15,000 feet are common. On both the northeastern and southwestern fringes of the area, peaks commonly reach more than 17,000 feet and some are over 20,000. In the southeastern part of the area the old lakebed extends northwestward from the lake in a relatively flat plain forming one of the most level parts of the altiplano. This broad area undulates into low foothills that are forerunners of the mountain ranges bordering the area on both sides. Rivers flow from these hills across the altiplano into Lake Titicaca (see accompanying GNC base map for Area III).

As one moves toward Cuzco the level areas of the altiplano become lost in the dissected terrain between the many tributaries of the Urubamba and Apurimac River systems that flow to the north. Paralleling each other in the northern part of the area are the valleys of the Vilcabamba, Santo Tomas, Velle, Salado, and Vilcanota Rivers. Between them are barren and rugged slopes that limit mobility and isolate one section from another by steep interstream divides. The major "artery" through the area follows the somewhat more gentle valley of the Vilcanota River (upstream called the Santa Rosa) to its junction with the Urubamba. Several intermontane lakes occur in the area, providing sources of water except during the height of the dry season.

Vegetation: The vegetation of the area is extremely sparse, the high elevations prohibiting the growth of more than tall grasses and some low shrubs. Around many small lakes, boggy areas in which tall reeds grow are common. Above 12,500 feet, shrubs do not ordinarily appear and herbaceous plants form a low mat that scarcely rises above the soil. Grass grows in tufts, and large areas of bare soil are common. In favorable spots, however, irrigated grains and root crops may be grown at these high elevations, and in large areas both cultivation of crops and grazing are carried on by the local population (see accompanying overlay on Agricultural Zones).

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Climate: The climate of this area is dry, as many places receive less than 30 inches of rain a year, and some places as little as 10 inches. Local variations in relief influence the precipitation pattern somewhat, but in general, amounts tend to increase from the southwest toward the northeast. The rainy season is between October and April, with maximum amounts falling in January and February. During the dry months winds blowing across the sparsely vegetated landscape often cause local dust storms. Above 16,500 feet the precipitation falls as snow and hail, but below 13,000 feet snow is not common and is never lasting.

Temperatures are always cool or cold. The mean annual temperature on the altiplano ranges from 50°F near Lake Titicaca to freezing at high elevations. Variations between day and night temperatures are great. Frost can be expected any month in the year throughout the area, except in the lowest part of some of the valleys where frosts do not occur during the warm, rainy months.

Transportation: One major road and several minor roads serve the central part of the area, and trails crisscross the remainder (see accompanying overlay on Transportation). One railroad runs lengthwise through the area, and another connects Cusco with Huanquiana in the north. Four airports are within the area. There are no navigable rivers. Available transportation facilities are as follows:

Roads and trails

The Southern Highway, surface improved. It runs through the entire area, having originated at La Oroya in the Highlands northwest of the area. The route from Juliaca and Puno continues westward and joins the Pan American Highway at Arequipa. Maintenance is probably fair.

Improved roads One connects Yauri (Espinar) with the Southern Highway at Contapata or via a spur to Sicuani; another connects Juliaca with Huancané. Maintenance is fair. Deterioration of the roads is not rapid because of the dry climate.

Secondary roads Several secondary roads connect the small towns near Lake Titicaca and those in the southern half of the area. As the terrain becomes more rugged, roads become nonexistent and the only communication is via the many trails which crisscross the area and connect the otherwise

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isolated villages. The density of population is greatest near the lake and around Cuzco (see accompanying overlay on Population, OMC base, and overlay on Indian Communities on political map).

Railroads — Ferrocarril del Sur del Peru (Southern Railway of Peru) is a standard-gauge line owned by the Peruvian Corporation, Ltd. It originates at Mollendo on the coast and enters Area III west of Juliaca. At Juliaca one branch turns south to Puno and the main line continues north to Cuzco. Beyond Cuzco an old narrow-gauge line, the Ferrocarril Cuzco - Santa Ana, is currently being extended as far as Quillabamba and reportedly is being reconditioned to standard gauge. Service to date includes the Machu Picchu Station but terminates at Hualquilla, 10 miles south of Quillabamba.

Airfields located within the area are at

Juliaca:	13,000' runway, temporary surface
Cuzco:	5,000' runway, temporary surface
El Progreso:	3,000' runway, probably earth surface
Yauri:	Less than 2,000' runway, probably earth surface

Airfields relatively close to the area are at

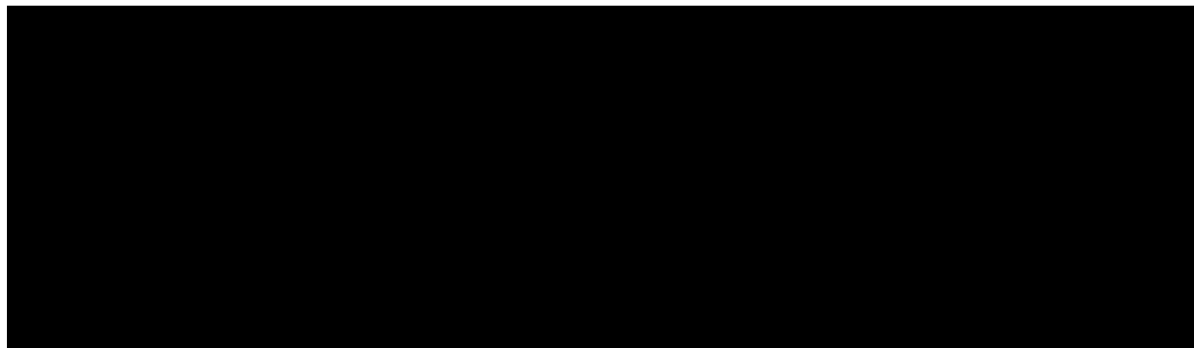
Patria:	Less than 2,000' runway, probably earth surface; 60 miles northeast of Cuzco
Quince Mil:	3,000' runway, temporary surface; 90 miles east of Cuzco
Poto Ananea:	Less than 2,000' runway, probably grass surface; 70 miles northeast of Juliaca
Lake Suches:	Less than 2,000' runway, probably grass surface; 80 miles northeast of Juliaca.

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